

**LISTING OF CLAIMS:**

Claims 1-33 (canceled)

Claim 34 (currently amended). A biological suspension processing system comprising:

- a blood treatment device for treating one or more components of a biological suspension;
- a human subject;
- a first fluid flow path ~~communicating~~, wherein said first fluid flow path is in continuing, direct communication with the vascular system of the human subject and the treatment device for introducing blood from the human subject into the treatment device;
- a second fluid flow path communicating with the treatment device for withdrawing a constituent of the blood from the treatment device;
- a third fluid flow path communicating with the treatment device ~~from~~ for withdrawing another constituent of the blood from the treatment device; and
- at least one microelectromechanical sensor communicating with one of said fluid flow paths for sensing a selected characteristic of the fluid within the flow path.

Claim 35 (currently amended). The system of claim 34 in which the sensor generates a signal responsive to one or more selected characteristic of the fluid in one of the fluid flow paths, the suspension treatment device including a controller adapted to receive the sensor signal and to control the treatment device in response thereto.

Claim 36 (original). The system of claim 35 in which the third fluid flow path communicates with the human subject, the treatment device is adapted to add anticoagulant to the blood in the first fluid flow path, the selected characteristic includes the hematocrit of blood in the first fluid flow path, and the controller controls the addition of anticoagulant into the first fluid flow path.

Claim 37 (original). The system of claim 35 in which the controller controls the treatment device in response to the signal to avoid one or more deleterious consequences to the human subject.

Claim 38 (original). The system of claim 35 in which the controller controls the treatment device in response to the signal to withdraw a constituent of desired quality.

Claim 39 (original). The system of claim 35 in which the controller controls the treatment

device in response to the signal to withdraw a constituent of a desired quantity.

Claim 40 (original). The system of claim 35 in which the controller controls the treatment device in response to the signal to withdraw a constituent that is depleted component of an undesired component.

Claim 41 (original). The system of claim 40 in which the undesired component is white cells.

Claim 42 (original). The system of claim 35 in which the controller controls the treatment device in response to the signal to withdraw a desired constituent.

Claim 43 (original). The system of claim 42 in which the desired constituent is platelets.

Claim 44 (original). The system of claim 42 in which the desired constituent is red cells or plasma.

Claim 45 (original). The system of claim 35 in which the sensor senses platelets and the controller controls the treatment device to withdraw a selected minimum quantity of platelets.